



Safety Alert Hydraulic Lock Lost Time Injury

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The following pages of this safety alert were issued by Highways England's supply chain partner:

Carnell

Hydraulic Lock Lost Time Injury

A Carnell employee sustained an open fracture to his index finger and lacerations to his middle finger when he removed a bolt within an excavator breaker attachment. The injured party (IP) received 5 stitches and underwent minor surgery under a local anaesthetic to 'pin' the open fracture. Fortunately, the employee is expected to make a full recovery and was able to return to work 2 days after the incident occurred.



The employee sustained the injuries as he attempted to relieve excess hydraulic pressure known as 'Hydraulic Lock' which prevents the hydraulic hoses being attached to the excavator couplings. This can occur when any hydraulic attachment is:

- Disconnected without the operator first removing the pressure
- Left in hot/cold conditions
- Dropped or impacted

The IP, without any training, attempted to remove the hydraulic lock himself by loosening the nuts at the hydraulic coupling. When this did not work the IP contacted the plant supplier to arrange for a plant fitter to attend site. Whilst waiting for the plant fitter the IP identified a bolt within the body of the breaker attachment and, without any knowledge or experience, loosened the bolt until it ejected at speed into his fingers.

Within Carnell no reports of hydraulic lock have ever been reported as an unsafe condition indicating that some employees treat its occurrence and removal as a routine operation.

To prevent incidents of a similar nature excavator operators must always ensure they have released the hydraulic pressure before disconnecting any attachments by:

- Turning off the excavator and moving the operating levers / attachment controls.
- Checking movement within the hydraulic hoses – when pressure has been sufficiently released the hoses should move easily. Hoses with excess pressure will feel rigid when attempting to move them.
- Checking movement within the coupling. The coupling should slide upwards with minimal force being applied. If the coupling does not move easily then there is still pressure within the hydraulic system.

Any occurrence of hydraulic lock must only be removed by a suitably trained and competent person such as a plant fitter.

If hydraulic lock is identified when attempting to connect hydraulic attachments:

- **STOP** what you are doing.
- Isolate the plant.
- Report it to your supervisor.
- **NEVER** attempt to relieve the excess pressure yourself!

All occurrences of hydraulic lock must be reported as an unsafe condition to the near miss line

‘Think Safety, Work Safely and Let’s all go Home Safely’